

CONFIDENTIALBALLOON, PORTABLE HYDROGEN
GENERATOR

25X1

June 1, 1957

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Gentlemen:

Enclosed please find Annex A of my recent report,
plus my statement of account January 1 through May 31.

Very truly yours,

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ORIGINAL CL BY 235979
DECL ☐ REVW ON 27/6/2010
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ANNEX A

Description of test Device

The intermediate experiments on the generation of hydrogen from water and lithium hydride were carried on in the apparatus shown in Figure 1. The flask A has a volume of 2 liters. The charge of lithium hydride weighs 300 grams and fills the flask half full.

The apparatus is immersed in the water of a stream to the level B. The container C is initially filled with water. To start the apparatus the cock D is opened. Water runs into A and the evolution of gas starts. This gas exhausts through the tube E under water into the siphon F. Here it entrains water which is carried up through the tube G to the larger tub F. Here the hydrogen separates from the entrained water, and the water runs back through the tube I into container C. This flow keeps C full and the process running. The excess of water carried up through tube G runs off to waste at J.

As the process continues the flask A becomes filled to the level of the tube E with a saturated solution of lithium hydroxide. As still more water flows into A this lithium hydroxide solution spills over into E, where it mixes with the water of the stream at F. There is considerable surging at F, and this flushes the lithium hydroxide out into the stream. Some of the lithium hydroxide is, of course, carried up through G and the feed to A thereafter contains some lithium hydroxide.

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As the reaction progresses the supply of lithium hydride becomes exhausted, and the end comes quite abruptly as the last of the lithium hydride in flask A disappears. Flow of water up the siphon G is brisk to the end.

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Annex A

Figure 1

